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## Protein Aids Bone Healing

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At the intersection of stem cell research and the world of Harry Potter you'll find new work by CIRM grantees at Stanford University School of Medicine that can speed the rate of bone healing by three times. It's not quite Skele-gro, but it's close, at least in mice.

The research is based on a protein called Wnt that was long-known to be involved in the growth of many kinds of tissues and in the differentiation of stem cells. What's new is that the researchers managed to package the Wnt in a form that allows it to be delivered directly to tissues that need it. In a press release, senior author Jill Helms said:

“We believe our strategy has the therapeutic potential to accelerate and improve tissue healing in a variety of contexts.” Helms and her collaborators delivered the packaged Wnt into the bones of mice with an induced injury. After 28 days, those mice had completely healed while the bones of their untreated lab-mates were still in the repair process. It appears that the Wnt triggers progenitor cells in the bone to multiply and heal the wound. Helms thinks the approach could be useful for healing tissues in addition to bone:

“Enhancing healing via Wnt-protein mediated activation of endogenous stem cells” After stroke and heart attack we heal the injuries slowly and imperfectly, and the resulting scar tissue lacks functionality. Using Wnt may one day allow us to regenerate tissue without scarring.”

From Stanford's blog *Scope*:

“NatureNews also reported on the study, which appears in the journal *Science Translational Medicine*, and quoted a Columbia University expert who called the work “a major technological advance.” But developmental biologist Roel Nusse, PhD, stressed there is still a lot of work to do.

This research marks the 500th paper published with CIRM funding.

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